DOCUMENT RESUME

ED 233 760 JC 830 399

AUTHOR Johnson, Berman E.
TITLE The DeKalb High Technology Needs Assessment for Gifted Students.
INSTITUTION DeKalb Community Coll., Clarkston, GA. DeKalb Area Vocational-Technical School.
PUB DATE 4 Apr 83
NOTE 40p.; Prepared in cooperation with the Consultant for the Gifted, DeKalb County Public Schools.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academically Gifted; Articulation (Education); Career Choice; Community Colleges; Courses; *Dual Enrollment; *High School Students; Questionnaires; School Surveys; Student Attitudes; Student Recruitment; *Technical Education; Two Year Colleges
IDENTIFIERS *High Technology

ABSTRACT

A study was conducted by DeKalb Area Vocational-Technical School (DAVTS) to determine the attitudes of gifted high school students toward high technology as a choice for postsecondary studies and their interest in joint enrollment in DATVS's high technology programs. A student questionnaire, information on DATVS high technology programs, and a summary of the DeKalb 1981-82 Job Placement Report were distributed to high school teachers involved in the DeKalb Impact Program for gifted students. Findings, based on responses from 40% of the 1,488 DeKalb Impact students, included the following: (1) 76% of the students showed interest in the DAVTS high technology courses; (2) of DAVTS's five high technology programs (Bio-Medical Electronics Technology, Data Processing Technology, Electronic Engineering Technology, Electro-Mechanical Technology, and Mechanical Engineering Technology), respondents showed greatest interest in Bio-Medical Electronics and Data Processing Technology; (3) preferred class times were 4 to 6 p.m. and 3 to 5 p.m., biweekly; (4) 82% of the respondents favored paying a course fee; (5) 45% preferred Saturday courses; and (6) 68% favored summer courses. Based on study findings, several recommendations were made, including that an intensive and sustained publicity effort be launched around DAVTS high technology programs, and that computer and electronics courses be offered on all campuses at the times preferred by the high school students. The packet distributed to the Impact teachers is appended. (LL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED233760

The DeKalb High Technology Needs Assessment for Gifted Students

Office of Research and Planning
Berman E. Johnson, Director
DeKalb Area Vocational-Technical School,
DeKalb Community College
Clarkston, GA 30021

in cooperation with
The Consultant for the Gifted,
DeKalb County Public Schools, DeKalb County, GA

April 4, 1983

UC 830 399

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
B. E. Johnson
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☒ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

The DeKalb High Technology Needs Assessment
For Gifted Students

Executive Summary

The study stemmed from concerns expressed to DeKalb Area Vocational-Technical School (DAVTS) that DeKalb Impact (gifted) students generally do not choose two-year postsecondary studies which lead to viable careers in high technology. DAVTS's Office of Research and Planning, in cooperation with Impact personnel, developed a survey questionnaire which noted five programs and 14 courses taught in DAVTS high technology. The basic question was: What are the attitudes and interests of DeKalb Impact students towards joint enrollment in DAVTS high technology programs? It was assumed that appraisal of these attitudes and interests could serve to assess the high technology needs of gifted students in DeKalb County Schools.

The questionnaire, information on DAVTS high technology programs, and a summary of the DeKalb 1981-82 Job Placement Report were distributed to 21 Impact teachers who serve 22 high schools in DeKalb County. They were asked to disseminate the information and the Report, and to administer the questionnaire to 1,488 Impact students. The 592 responses (40 percent) noted 19 schools which participated in the study. The data were collected by Impact personnel and analyzed by the Office of Research and Planning.

The responses were evenly representative of the population, with 76 percent showing an interest in DAVTS courses. Most respondent program choices were for Data Processing Technology and Bio-Medical Electronics Technology, the preferred class hours were 4-6PM and 3-5PM biweekly, and 82 percent of the respondents favored paying a course fee. The respondents' campus preference matched their school location, only 45 percent preferred Saturday courses, and 68 percent favored courses taught during summer months.

The study also served to inform teachers and gifted students in DeKalb high schools about DAVTS's high technology programs, the volume of courses available, and the attractive salaries of its completers. It was felt that this information is contagious and could spawn a more qualified enrollment. Such an enrollment is consistent with the new horizons of Georgia postsecondary vocational-technical education.

The following recommendations were made from the study:

1. Launching of an intensive and sustained publicity effort to inform the entire community about DAVTS high technology programs.
2. Establishment of computer and electronics courses on all three campuses during the hours of 4-6PM or 3-5PM biweekly, and with appropriate course fees starting Summer Quarter 1983 primarily for Impact students in a joint enrollment effort. Further expansion of courses in other high technology programs should be planned for Fall Quarter 1983 as needs and demands dictate.
3. Better cooperation and articulation with DeKalb County high schools with a more aggressive stance from DAVTS. This should include more frequent visits and interaction among DAVTS personnel and high school teachers and students, as well as reinforcement of the fact that DAVTS high technology programs develop the preferred skills needed for the 1980s.
4. Institutional and community recognition of five DAVTS high technology programs.

Table of Contents

	Page
Introduction	
Statement of the Problem	1
Review of Related Literature	3
Development of the Survey Questionnaire	5
Administration of the Questionnaire	6
Presentation of the Data	7
Figure 1. DeKalb County Impact Student Participation in the Study	8
Program interest	9
Positive interest	9
Figure 2. DAVTS High Technology Programs Designated as those of Interests by the Respondents	10
Figure 3. Positive Responses of Interest Shown by the Respondents for DAVTS High Technology Programs	11
Preferred courses	12
Preferred courses by school	12
Preferred days per week	12
Figure 4. DAVTS High Technology Course Choices Made by the Respondents	13
Figure 5. DAVTS High Technology Course Choices Made by the Respondents by School	14
Figure 6. Number of Class Days Per Week Preferred by the Respondents for DAVTS High Technology Courses	15
Preferred hours per day	16
Saturday preference	16
Summer months preference	16
Required fee	16
Campus preference	16

Page

Figure 7. Class Hours Preferred by Respondents Who Would Enroll in DAVTS High Technology Courses 17

Figure 8. Respondents Preference for Saturday Classes, Summer Classes, and Course Fees for DAVTS High Technology Courses 18

Figure 9. Respondents Campus Preference for DAVTS High Technology Courses 19

Sex and race 20

Age and grade level 20

Figure 10. Demographic Information Describing Respondents' Sex and Race 21

Figure 11. Age and Grade Levels of the Respondents 22

Figure 12. Positive and Negative Response by Basic Racial Groups 22

Conclusions and Recommendations 23

Appendix

References 28

Cover Letter Sent to Impact Students Asking for Participation in the Study. 29

Information Sent to Impact Students on the Five DAVTS High Technology Programs 30

Information Sent to Impact Students on the 1981-82 DAVTS Job Placement Report 32

The DeKalb Impact High Technology Survey 33

Introduction

The purpose of the DeKalb High Technology Needs Assessment for Gifted Students was to determine the needs of gifted high school students in DeKalb County Public Schools. The study stemmed from concerns expressed by DeKalb Impact teachers that Impact students generally do not choose two-year postsecondary studies which lead to viable careers in high technology. Dekalb Impact teachers provide special courses for DeKalb Impact students who, by virtue of criteria established by the State of Georgia Board of Education, are declared intellectually gifted. High technology careers are recognized as the wave of the future, and high technology industries hold the key to maintaining and improving the competitiveness of the American economy at home as well as abroad (Congress of the United States, Joint Economic Committee, June, 1982).

The teacher concern was voiced to administrators of DeKalb Area Vocational-Technical School (DAVTS) which is noted as the occupational unit of DeKalb Community College and a state leader in postsecondary vocational-technical education. It was felt that the study could be useful in the DAVTS response to the concern, it could help DAVTS better serve the needs of the community, and it could be useful in assessing gifted high school student perceptions of high technology as a choice for postsecondary studies.

Statement of the Problem

High technology programs in Georgia postsecondary vocational-technical schools require that program enrollees have a sound high

school education. Despite the fact that these programs are generally filled, the number of quality program completers has not been adequate (Wyvill, J.C., 1981). Vocational-technical schools in most areas of the state are hampered by a lack of students with sufficient appitudes to complete high technology programs, and attrition rates are uncommonly high in some programs. These conditions speak to a need for better qualified enrollees and also to the concern that failure to produce more two-year level technicians will seriously hamper the state's ability to attract and retain high technology industries (Carter, 1983). It was postulated that gifted students could figure prominently as a solution to the problem.

DeKalb Impact students have traditionally been counseled to pursue baccalaureate degrees after graduation, and many are awarded college scholarships. However, some are counseled to pursue college studies in disciplines for which there are few jobs, and as a result become well-educated persons who cannot find suitable employment. Also, a portion of these students do not have the desire or the means to complete four-year degree programs. The concern expressed by Impact teachers that their students generally do not consider options for two-year postsecondary studies in high technology was therefore well justified.

First efforts to include DeKalb Impact students in studies for high technology occurred in January 1982 in DAVTS's Data Processing Program held on the South Campus of DeKalb Community College. These efforts were stimulated by the Impact teacher of Columbia High School who was instrumental in generating a concern among other Impact teachers in the County. In response to that concern the

Dean-Director of DAVTS asked for a conference which was attended by DeKalb Impact teachers and selected DAVTS administrators. At that conference, held at Robert Shaw Center on November 1, 1982, it was determined that a high technology needs assessment of DeKalb Impact students would be beneficial. It also was determined that the study would be conducted by DAVTS's Office of Research and Planning with cooperation from the Office of The Consultant for the Gifted, DeKalb County Public Schools.

Review of Related Literature

A review of related literature revealed no information which speaks specifically to gifted students in postsecondary vocational-technical education. However, many postsecondary institutions have initiated joint enrollment plans for gifted students either individually with particular high schools or through a College Board Advanced Placement Program. These efforts are made to provide rigorous and stimulating curricula for gifted students who need to be challenged more in the school environment. Innovative structure to provide courses in schools and in colleges include the following: (1) reduced tuition or no tuition for participating high school students who simultaneously earn high school and college credit for joint enrollment courses, (2) funding formulas that reward both schools and colleges for joint enrollment participation, and (3) joint enrollment which allows high school students to enroll in courses on a nearby college campus (School-college cooperation for teaching gifted students, SREB, Oct. 1982).

During 1981 state support for gifted students was greatest in the South as 46 percent of the $148 million spent nationally was allocated by 14 southern states (Gallagher, et. al. 1982). In Florida this included a legislative appropriation of $500,000 to the Challenge Grant Program for the Gifted. Local school districts competed for these funds by submitting projects for gifted students in collaboration with postsecondary institutions. The Florida effort was designed to encourage high school students to excel and to stay within their own state for a college education (School-college cooperation for teaching gifted students, SREB, Oct. 1982).

Gifted high school students from lower socioeconomic families had lesser enrollment in American postsecondary education during the 1970s. Among high achievers graduating in 1972 from high schools, 37 percent from the poorest families had not attended college by 1976, while only seven percent from the wealthiest families had not attended college by 1976 (College attainment four years after high school, 1982). Although more recent figures have yet to be released, this failure to enroll so many high achievers from poorer families during the mid-1970s constitutes a vast waste of human resources hardly affordable in the 1980s.

The lack of information in the related literature concerning gifted students participating in postsecondary technical studies suggests that there has been no significant research on the subject. It also suggests that most educators counsel gifted students to pursue studies in other postsecondary areas. Such attitudes appear

to assume that all gifted students should pursue a liberal arts education and that all gifted students have the desire and means to pursue and to complete baccalaureate programs. Finally, the related literature suggests that little or no emphasis has been made in education for gifted students to prepare for expanding careers now available in high technology disciplines.

Development of the Survey Questionnaire

The Office of Research and Planning developed the survey questionnaire for this study, with content validity assistance from the Columbia High School Impact teacher and the Office of The Consultant for the Gifted. The basic question of the study was: What are the attitudes and interests of DeKalb Impact students towards a joint enrollment in DAVTS high technology programs? It was assumed that appraisal of these attitudes and interests could serve to assess the high technology needs of gifted high school students in DeKalb County Schools. The questionnaire contains eight items, six general information questions, and identifies five DAVTS high technology programs:

Bio-Medical Electronics Technology
Data Processing Technology
Electronic Engineering Technology
Electro-Mechanical Technology
Mechanical Engineering Technology

The questionnaire identifies 14 basic courses in the five programs:

Introduction to Computer Science
Basic Electricity
Basic Electrical Drafting
AC Fundamentals
Electronic Devices
Digital Principles
Electronic Test Instruments
COBOL Programming
Industrial Electronics
Communications Circuits
Manufacturing Processes
Machine Shop
Computer Fundamentals
Fundamentals of Engineering Technology

Administration of the Questionnaire

In an effort to gain maximum responses to the survey questionnaire, it was determined that the 21 Impact teachers of DeKalb County Schools would administer the instrument to Impact students at their schools. This plan was announced by the Office of The Consultant for the Gifted at a faculty meeting where 22 high schools of the County which have Impact students enrolled were represented. DeKalb County Schools had 1,488 persons designated as Impact students who could respond to the questionnaire. However, it was noted that only a portion of these students are enrolled in the Impact Program during a given period of time. On December 1, 1982 a package of questionnaires was sent to each Impact teacher with instructions for administration of the instrument. Included in each package was pertinent information on DAVTS high technology programs as well as a summary of the 1981-82 DAVTS Job-Placement Report. Impact teachers were asked

to share the information and the Report with Impact students prior to administration of the instrument. The Impact teachers were asked to return the responses to the Impact teacher of Columbia High School. The responses were then forwarded to the Office of Research and Planning for analysis of data.

On February 1, 1983 there were 550 questionnaires returned from 18 high schools. This constituted a return rate of 37 percent, and prompted the Office of The Consultant for the Gifted to send a memorandum asking Impact teachers who had not returned any questionnaire responses to do so as soon as possible. A cut-off date for questionnaire returns was set for March 1, 1983. On that date 42 more questionnaires had been returned for a total of 592. The 592 returned questionnaires constituted a return rate of 40 percent from a total of 19 DeKalb County high schools. Three of DeKalb's 22 schools with Impact students did not return questionnaires.

Presentation of the Data

The 19 high schools which participated in the study are listed in Figure 1 along with the number of Impact students attending each school, the number of responses from each school, and the percentages of responses. Each high school was also ranked in terms of the number of responses returned. Figure 1 shows that the three highest number of responses came from Columbia, Peachtree, and Henderson. It also shows that the highest percentages of responses came from Columbia (100), Walker (79), Henderson (71), and Gordon (62).

Figure 1. DeKalb County Impact Student Participation in the Study

Rank	Name of High School	Impact Students Enrolled	Responses	Percentage of Responses
1	Columbia	66	66	100
2	Peachtree	110	59	53
3	Henderson	78	56	71
4	Cross Keys	103	47	45
5	Shamrock	96	44	45
6	Lakeside	104	40	38
7	Stone Mountain	62	35	56
8	Dunwoody	70	32	45
9	Avondale	75	26	34
10	Gordon	40	25	62
11	Towers	81	25	30
12	Cedar Grove	56	24	42
13	Lithonia	47	23	43
14	Chamblee	47	22	46
15	Walker	24	19	79
16	Sequoyah	53	14	26
17	Tucker	93	14	14
18	Redan	66	12	18
19	Southwest DeKalb	24	9	37
	Druid Hills	115	0	0
	Clarkston	50	0	0
	Briarcliff	28	0	0
	TOTALS	1,488	N = 592	40%

Program interest

Respondents had options to designate one of five DAVTS high technology programs as an area of interest. However, several respondents chose more than one program. They also had an option to choose "none" indicating that they had no interest in DAVTS high technology programs. Figure 2 shows the number of high technology programs designated as those of interest by the respondents. Figure 2 shows that the greatest amount of interest was in Data Processing Technology (269). Walker had 13 respondents (68 percent), Cedar Grove had 16 respondents (67 percent), and several others had more than 50 percent of their respondents designating Data Processing Technology as an area of interest. The lesser amount of interest was in Electro-Mechanical Technology (60) where several schools had respondents who showed little or no interest. The high school with the least amount of interest was Tucker which had 12 respondents (86 percent) showing no interest in DAVTS high technology programs.

Positive interest

Figure 3 indicates the number and percentages of positive responses of interest shown by the respondents. Figure 3 shows that 448 respondents (76 percent) have an interest in DAVTS high technology programs. These were considered as positive responses. It also shows that 18 of the 19 high schools participating in the study had more than 50 percent reporting positive responses of interest. Gordon and Walker each had 100 percent while Dunwoody, Cedar Grove, and Redan had over 90 percent.

Figure 2. DAVTS High Technology Programs Designated as those of Interest by the Respondents

Name of School	No. Responses	*BMT	DPT	EET	EMT	MET	NONE
Columbia	66	12	37	15	4	11	10
Peachtree	59	10	32	8	6	10	17
Henderson	56	15	26	5	1	4	11
Cross Keys	47	5	17	11	6	8	12
Shamrock	44	6	14	11	7	8	20
Lakeside	40	6	20	5	5	5	11
Stone Mountain	35	10	12	7	5	4	13
Dunwoody	32	11	16	6	10	3	1
Avondale	26	3	14	1	1	3	8
Gordon	25	9	9	4	3	0	0
Towers	25	5	7	10	4	4	3
Cedar Grove	24	8	16	3	1	3	1
Lithonia	23	4	8	5	2	1	8
Chamblee	22	5	9	2	0	2	7
Walker	19	4	13	2	2	2	0
Sequoyah	14	0	7	0	0	2	5
Tucker	14	1	2	0	0	0	12
Redan	12	4	5	0	2	3	1
Southwest DeKalb	9	3	5	1	1	2	1
TOTALS N =	592	120	269	96	60	75	141

*BMT = Bio-Medical Electronics Technology
DPT = Data Processing Technology
EET = Electronic Engineering Technology
EMT = Electro-Mechanical Technology
MET = Mechanical Engineering Technology
NONE = No Interest

Figure 3. Positive Responses of Interest Shown by the Respondents for DAVTS High Technology Programs

Name of School	No. Responses	Positive Responses of Interest	Percentage
Gordon	25	25	100
Walker	19	19	100
Dunwoody	32	31	96
Cedar Grove	24	23	95
Redan	12	11	91
Southwest DeKalb	9	8	88
Towers	25	22	88
Columbia	66	56	84
Henderson	56	45	80
Cross Keys	47	35	74
Lakeside	40	29	72
Avondale	26	18	69
Chamblee	22	15	68
Peachtree	59	39	66
Lithonia	23	15	65
Sequoyah	14	9	64
Stone Mountain	35	22	62
Shamrock	44	24	64
Tucker	14	2	14
TOTALS N =	592	448	76%

Preferred courses

Respondents were asked if they would enroll in any of the 14 basic DAVTS high technology courses. Many respondents chose more than one course. Figure 4 identifies the 14 courses as (A) through (N), and shows the number of responses for each course. Figure 4 shows that the courses most preferred were (A) Introduction to Computer Science, 268; (M) Computer Fundamentals, 263; (H) COBOL Programming, 165; and (N) Fundamentals of Engineering Technology, 129. The lesser preferred courses noted in the responses were (K) Manufacturing Processes, 18; (D) AC Fundamentals, 21; and (L) Machine Shop, 37.

Preferred courses by school

Figure 5 shows by school as well as by course the respondent preferences for enrollment in DAVTS high technology courses. It shows 30 choices from Columbia for (A) Introduction to Computer Science, 15 choices from Dunwoody for (H) COBOL Programming, and seven choices from Redan for (M) Computer Fundamentals. Conversely, Figure 5 shows that 10 schools had no choices for (K) Manufacturing Processes.

Preferred days per week

Respondents were asked to select the number of days per week that they would prefer taking DAVTS high technology courses. Figure 6 shows the number of days per week preferred by the respondents. It can be seen that 225 respondents (52 percent) prefer courses meeting two days per week while only 18 respondents (four percent) prefer courses meeting four days per week.

Figure 4. DAVTS High Technology Course Choices Made by the Respondents

Name of Course	No. of Choices
(A) Introduction to Computer Science	268
(B) Basic Electricity	88
(C) Basic Electrical Drafting	57
(D) AC Fundamentals	21
(E) Electronic Devices	124
(F) Digital Principles	56
(G) Electronic Test Instruments	67
(H) COBOL Programming	165
(I) Industrial Electronics	47
(J) Communications Circuits	75
(K) Manufacturing Processes	18
(L) Machine Shop	37
(M) Computer Fundamentals	263
(N) Fundamentals of Engineering Technology	129
TOTALS	1,415

Figure 5. DAVTS High Technology Course Choices Made by the Respondents by School

School	* A	B	C	D	E	F	G	H	I	J	K	L	M	N
Columbia	30	14	6	7	17	13	11	26	9	13	3	5	25	17
Peachtree	22	7	5	2	11	4	5	16	4	11	2	4	30	13
Henderson	27	7	3	2	15	6	10	25	5	4	0	1	30	7
Cross Keys	26	7	7	2	9	7	2	9	6	4	1	3	22	13
Shamrock	11	7	6	2	9	5	3	13	6	9	3	5	12	11
Lakeside	17	6	7	1	5	2	5	9	4	5	3	3	20	10
Stone Mountain	13	2	4	2	7	1	3	4	2	4	2	2	12	7
Dunwoody	17	8	2	1	8	3	2	15	1	4	0	3	18	8
Avondale	11	4	5	0	3	1	2	6	2	1	0	0	12	3
Gordon	16	3	2	0	12	1	8	4	4	1	1	1	17	6
Towers	10	8	4	0	8	0	1	9	1	3	0	3	8	9
Cedar Grove	13	3	0	0	5	3	3	5	0	4	0	2	19	3
Lithonia	9	5	4	1	4	3	3	5	2	3	1	1	8	5
Chamblee	10	1	0	0	2	2	0	8	1	1	0	2	12	4
Walker	13	2	0	0	3	1	2	0	0	1	0	1	5	3
Sequoyah	5	0	0	1	1	1	2	2	0	3	2	1	3	3
Tucker	1	0	0	0	0	0	0	2	0	0	0	0	2	0
Redan	10	2	2	0	4	3	3	3	0	3	0	0	7	4
Southwest DeKalb	7	2	0	0	1	0	2	4	0	1	0	0	1	3

* A-N = Courses Identified in Figure 4.

Figure 6. Number of Class Days Per Week Preferred by the Respondents for DAVTS High Technology Courses

School	2 days	3 days	4 days	5 days
Columbia	17	25	3	10
Peachtree	30	12	0	1
Henderson	29	12	1	1
Cross Keys	10	17	4	3
Shamrock	10	9	1	3
Lakeside	17	11	0	1
Stone Mountain	16	4	1	1
Dunwoody	19	8	0	2
Avondale	10	3	1	3
Gordon	1	19	1	1
Towers	13	3	3	0
Cedar Grove	9	9	0	4
Lithonia	6	6	0	1
Chamblee	11	3	0	1
Walker	6	10	2	1
Sequoyah	4	5	0	0
Tucker	2	0	0	0
Redan	19	1	1	0
Southwest DeKalb	6	1	0	1
TOTALS	225	158	18	34

Preferred hours per day

Respondents were asked to select the hours that they preferred taking DAVTS high technology courses. Figure 7 shows that 156 respondents (36 percent) preferred the 4-6PM hours, 146 respondents (34 percent) preferred the 3-5PM hours, while only 25 respondents (six percent) preferred the 3-6PM hours.

Saturday preference

Respondents were asked if they would attend DAVTS high technology courses scheduled on Saturdays. Figure 8 shows that 201 respondents (45 percent) reported that they would attend classes held on Saturdays.

Summer months preference

Respondents were asked if they would attend DAVTS high technology courses during the summer months. Figure 8 shows that 303 respondents (68 percent) reported that they would attend courses scheduled for the summer months.

Required fee

Respondents were asked if they would pay a required fee for DAVTS high technology courses. Figure 8 shows that 362 respondents (82 percent) reported that they would pay a required fee for courses.

Campus preference

Respondents were asked to choose one of the College's three campuses for DAVTS high technology courses. Figure 9 shows that 166 respondents (38 percent) preferred taking courses on the Central

Figure 7. Class Hours Preferred by Respondents Who Would Enroll in DAVTS High Technology Courses

School	3-5PM	3-6PM	4-6PM	6-8PM
Columbia	20	5	16	15
Peachtree	10	1	20	10
Henderson	7	0	18	17
Cross Keys	9	3	13	9
Shamrock	9	0	6	8
Lakeside	6	1	18	4
Stone Mountain	7	4	7	5
Dunwoody	10	2	14	3
Avondale	7	1	3	7
Gordon	18	2	0	2
Towers	15	0	5	2
Cedar Grove	7	1	12	1
Lithonia	3	1	3	5
Chamblee	8	1	1	5
Walker	6	2	9	2
Sequoyah	2	0	4	3
Tucker	0	0	2	0
Redan	2	1	2	4
Southwest DeKalb	0	0	3	4
TOTALS	146	25	156	106

Figure 8. Respondents' Preferences for Saturday Classes, Summer Classes, and Course Fees for DAVTS High Technology Courses

School	Saturday		Summer Months		Course Fees	
	Yes	No	Yes	No	Yes	No
Columbia	29	26	42	14	52	4
Peachtree	28	14	28	14	32	10
Henderson	19	26	30	15	39	6
Cross Keys	17	17	24	11	28	6
Shamrock	8	16	17	7	18	5
Lakeside	20	9	19	10	23	6
Stone Mountain	5	17	15	7	20	2
Dunwoody	11	19	22	8	20	7
Avondale	8	10	12	6	15	3
Gordon	10	15	20	4	23	0
Towers	8	14	12	10	18	2
Cedar Grove	9	14	16	7	15	8
Lithonia	6	8	8	6	9	6
Chamblee	3	12	8	7	13	2
Walker	11	8	11	8	12	7
Sequoyah	1	8	7	2	6	3
Tucker	0	2	0	2	1	1
Redan	4	7	8	3	11	0
Southwest DeKalb	4	2	4	4	7	1
TOTALS	201	244	303	145	362	79

Figure 9. Respondents' Campus Preference for DAVTS High Technology Courses

School	North Campus	South Campus	Central Campus
Columbia	1	53	2
Peachtree	42	0	0
Henderson	12	0	32
Cross Keys	22	0	13
Shamrock	5	1	18
Lakeside	0	3	26
Stone Mountain	0	1	21
Dunwoody	30	0	0
Avondale	1	0	17
Gordon	1	22	1
Towers	0	3	17
Cedar Grove	0	19	3
Lithonia	0	10	2
Chamblee	15	0	0
Walker	0	19	0
Sequoyah	9	0	0
Tucker	0	0	2
Redan	0	0	11
Southwest DeKalb	0	6	1
TOTALS	137	137	166

Campus. Figure 9 also shows that campus preferences generally matched areas where the participating high schools were located. All Peachtree respondents preferred North Campus, all Walker respondents preferred South Campus, and all Redan respondents preferred Central Campus.

Sex and race

Demographic information in Figure 10 shows that there were 317 male respondents (54 percent) and 273 female respondents. Figure 10 also shows that 430 cases (73 percent) were white respondents while 129 cases (22 percent) were black respondents. It also shows that several schools had nearly 100 percent white respondents: Peachtree, Henderson, Shamrock, Dunwoody, Chamblee, Sequoyah, and Tucker. Gordon was the only school with 100 percent black respondents.

Age and grade level

A total of 584 respondents reported information on age level and 590 respondents reported information on grade level. Figure 11 shows that 143 respondents (25 percent) reported being 15 years old, and 163 respondents (28 percent) reported being in the eighth grade. Figure 11 also shows the number of positive and negative returns by age and grade levels.

Figure 12 shows the positive responses returned from three basic racial groups. It shows that 307 cases (68 percent) represent white respondents, 122 cases (27 percent) represent black respondents, and 21 cases (5 percent) represent other respondents.

Figure 10. Demographic Information Describing Respondents' Sex and Race

School	Male	Female	White	Black	Other
Columbia	34	32	8	56	2
Peachtree	30	29	55	0	4
Henderson	26	29	55	0	1
Cross Keys	26	21	43	1	3
Shamrock	31	13	36	0	8
Lakeside	23	17	29	6	5
Stone Mountain	19	16	30	1	4
Dunwoody	21	10	30	0	1
Avondale	11	15	24	2	0
Gordon	11	14	0	25	0
Towers	16	9	23	2	0
Cedar Grove	10	14	11	13	0
Lithonia	12	11	22	1	0
Chamblee	16	6	21	0	1
Walker	6	13	1	18	0
Sequoyah	10	4	13	0	1
Tucker	3	11	14	0	0
Redan	6	6	9	1	2
Southwest DeKalb	6	3	6	3	0
TOTALS	317	273	430	129	32

Figure 11. Age and Grade Levels of the Respondents

Age	Positive	Negative	Total
12	7	2	11
13	110	20	130
14	75	31	106
15	106	37	143
16	82	24	106
17	60	22	82
18	7	1	8
TOTALS	447	137	584

Grade	Positive	Negative	Total
8th	138	25	163
9th	56	29	85
10th	100	42	142
11th	89	23	112
12th	66	22	88
TOTALS	449	141	590

Figure 12. Positive and Negative Response by Basic and Racial Groups

Racial Group	Positive	Negative	Total
White	307	123	430
Black	122	7	129
Other	21	11	32
TOTALS	450	141	591

Conclusions and Recommendations

The DeKalb High Technology Needs Assessment For Gifted Students had 592 responses from a student population of 1,488; a 40 percent return rate. Several reasons have been postulated for the comparatively small percentage of returns: (1) During a given school quarter only a portion of a high school's Impact students are enrolled in the Impact program. The remainder are difficult to identify by Impact teachers who have schedules involving other subjects in the school environment. It appears that many Impact students in some high schools were not fully encouraged to respond to the questionnaire. (2) All 21 Impact teachers were asked to administer the questionnaire. However, biases towards technical education for gifted students appear to be evident in this study. There appeared to be a lack of interest among some Impact teachers for administration of the questionnaire. (3) Three high school Impact teachers who represent 193 Impact students did not respond to requests to participate in the study.

The study supports the concern made by some Impact teachers that Impact students should consider options for high technology studies available at the two-year level. Location of responses showed that Impact student interest in DAVTS high technology programs had fairly equal representation in the north, central, and south sections of DeKalb County. This indicates that the 76 percent positive interest shown by the respondents crossed racial, cultural, and geographic lines.

The two programs which had the largest number of Impact student interest--Data Processing Technology and Bio-Medical Electronics Technology--are not among the three high technology programs designated by the State Department of Education to have special emphasis at DAVTS. The three programs for which special funds have been allocated to DAVTS--Electronic Engineering Technology, Electro-Mechanical Technology, and Mechanical Engineering Technology--do not appear to be widely known or accepted by gifted students as viable high technology career programs. This may be commensurate with prevailing public perceptions also. It appears that if these programs are going to receive enrollment from better prepared young high school graduates, better information should be disseminated to indicate the programs' ability to develop preferred skills in the world of work. Course preferences appear to reflect these persuasions as a substantial number of Impact students preferred computer and electronic courses.

The time frames for class attendance preferred by Impact students appear to be 4-6PM or 3-5PM classes meeting twice weekly. These preferences are fairly representative throughout the County. Only 45 percent of the respondents reported to prefer Saturday classes, and 68 percent reported that they would attend courses taught during summer months.

Course fees were overwhelmingly (82 percent) supported by Impact students and indicate that Impact students attach value to technical studies. This assesment is consistent with cost-effective measures now being considered by DAVTS and the State Department of Education.

Based upon these conclusions the following recommendations are hereby made from this study:

1. An intensive publicity campaign should be mounted and retained to inform the public, including DeKalb high school students and teachers, about DAVTS's high technology programs. This campaign should educate people about the concept of high technology and its impact upon society. It should include newspaper and newsletter articles, radio and television plugs, presentations made by DAVTS recruiters and selected administrators, and dialogue between responsible DAVTS personnel and the general community.

2. High technology courses in Data Processing and Electronics should be established and offered on all three campuses of DeKalb Community College primarily for DeKalb Impact students. Other students should be given the opportunity to enroll in these courses if the courses do not fill after a cut-off period. These full-credit courses should be offered in a joint enrollment effort between the hours of 4-6PM or 3-5PM, they should meet twice weekly, and they should charge a fee appropriate to cover all necessary institutional costs. These courses should start during the Summer Quarter 1983, with expansion in the other high technology areas to be planned for Fall Quarter 1983, and continuation of course offerings each quarter as the needs dictate. Efforts should be made to encourage Impact students enrolled in these courses to complete a high technology program at DAVTS or at an appropriate four-year institution upon graduation from high school.

3. Better cooperation and articulation should be nurtured between DeKalb County high schools and DAVTS. This should include more frequent visits of DAVTS personnel to high school campuses, more frequent invitations made to high school personnel and students to visit DAVTS campuses, and a concerted effort to reinforce the fact throughout secondary education that DAVTS high technology programs develop the preferred skills needed for the 1980s.

4. Bio-Medical Electronics Technology and Data Processing Technology should be identified and recognized as DAVTS high technology programs. Such recognition is consistent with the perceptions of many gifted high school students, it is consistent with nationally accepted definitions of high technology, and it can greatly increase the image and prestige of the institution on all three campuses.

The provocative and informative dimensions of this study may have far-reaching effects. Many gifted students as well as teachers in DeKalb County now know about the DAVTS effort in high technology by virtue of information disseminated with the administration of the questionnaire. Several populations now have become appraised of the success rate of DAVTS, of the attractive beginning salaries enjoyed by DAVTS completers, and of the comprehensive mission of DeKalb Community College. Such information is contagious and has the potential to spawn an increased interest among more qualified high school students for the entire institution.

The increasingly spirited competition among postsecondary vocational-technical institutions in metropolitan Atlanta will not allow DAVTS to rest on its laurels. Retrenchment in education, technological expansion, and accelerated demands made on technical student performance require a more aggressive and innovative approach in student recruitment and enrollment. DeKalb Area Vocational-Technical School has met this challenge in the past; but it will be required to do more in the future. This study shows that targeting DeKalb Impact students for studies in high technology can be a positive step in that direction.

References

Carter, C. W. Businessmen and educators meld to bridge knowledge gap. Atlanta Business Chronicle, January 31, 1983.

College Attainment Four Years After High School, Washington, D.C.: National Center for Educational Statistics, 1982, p. 60.

Congress of the United States, Joint Economic Committee, Location of High Technology Firms and Regional Economic Development, June, 1982.

Gallagher, J. J. et. al. Report on Education of Gifted, Volume 1, Chapel Hill, NC: University of North Carolina, 1982, p. 39.

School-college cooperation for teaching gifted students. Regional Spotlight: News of Higher Education in the South, Atlanta: Southern Regional Education Board, Oct., 1982.

Wyvil, J. C. Advanced Technology Study for Post-Secondary Area Vocational-Technical Schools; Interim Report, Atlanta: Georgia Institute of Technology, 1981.

November 30, 1982

Dear Impact Student,

DeKalb Area Vocational-Technical School, a division of DeKalb Community College, offers courses in high technology which lead to highly successful careers in business and industry. Many high technology careers offer high paying salaries in this area. It has been suggested that DeKalb Impact students be given optional opportunities for enrolling in high technology courses. We need your help in efforts which can establish high technology courses available at times and under conditions best suited for Impact students. You can provide that help by answering some questions about high technology courses offered in the DeKalb Tech service area.

High technology is a process which is knowledge based with an intense concentration of technical skills and scientific knowledge. It merges scientific knowledge with the production system, and it reinforces innovative activity with new ideas and procedures from a high level of research and development. It is radically new in its scientific and technical content, and it incorporates an advanced level of automation in manufacture and production control. Courses above the high school level are required for successful careers in high technology.

Attached please find the DeKalb Impact High Technology Survey. You are asked to place a checkmark (✓) in spaces provided for each of the questions. Please answer all questions, and thank you for your cooperation.

Respectfully,

Berman Johnson

Dr. Berman E. Johnson,
Director of Research and Planning
DeKalb Area Vocational-Technical
School

Mrs. Dale Cabaniss,
Consultant For Gifted
DeKalb Public Schools

HIGH TECHNOLOGY PROGRAMS

BIOMEDICAL-ELECTRONICS TECHNOLOGY
Associate In Science Degree

The purpose of this curriculum is to provide the individual with the required skills and knowledge through the integrated electrical, electronic, and mechanical engineering specialties. Courses provided give the student a background in electricity-electronics, such as Fundamentals of Electricity, Wave Shaping, and Pulse Circuits; in Biomedical operations and functions such as Physiological measurements and parameters; and in Electro-Mechanical Systems covering such devices as computers, laboratory measurements systems, and transducer input systems.

DATA PROCESSING TECHNOLOGY
Associate In Science Degree

The purpose of the Data Processing Technology Program is to prepare the student for employment as a computer programmer. The curriculum is designed to provide an understanding of the concepts, principles and techniques involved in processing business data.

(over)

ELECTRONIC ENGINEERING TECHNOLOGY
Associate In Science Degree

The objective of the curriculum is to produce a competent electronic technician. The technician must be capable of working and communicating directly with engineers, scientists, and production personnel in his or her specialized work; of satisfactorily performing work for his employer; and of growing into positions of increasing responsibility. In addition, the graduate technician should be an active, well-informed member of society.

ELECTRO-MECHANICAL TECHNOLOGY
Associate In Science Degree

The purpose of this curriculum is to provide the individual with the required skills and knowledge through the integrated electrical, electronic and mechanical engineering specialties. Courses provided give the student a background in electricity-electronics, such as fundamentals of electricity and semi-conductor devices and electronic circuits; in mechanical operations and functions such as machine processes and mechanisms; and in electro-mechanical systems covering such devices as computers, servo-mechanisms, numerical control systems.

MECHANICAL ENGINEERING TECHNOLOGY
Associate In Science Degree

The mechanical engineering technician uses his or her scientific knowledge and technical skills in the support of engineering activities. They work side by side with engineers and often serve as a liaison between engineering and field projects or production. He or she is also in demand in manufacturing plants as a designer of tools and devices.

In the classroom the student learns the basic theories and analytical procedures for problem solving. In the laboratories he or she becomes familiar with machines, processes and practical operating methods. Job entry is available in such areas as quality control, machine design, material testing, engineering sales, field installation and inspection, engineering maintenance, research and development.

DEKALB AREA VOCATIONAL-TECHNICAL SCHOOL
PLACEMENT REPORT

POST-SECONDARY STUDENTS COMPLETING BETWEEN
JULY 1981 and JUNE 1982

	COMPLETIONS		UNKNOWN	NOT AVAILABLE		AVAILABLE	EMPLOYMENT STATUS				ENTRY LEVEL
1. Program	2. Graduates	3. Left with marketable skills	4. Status unkown	5a. Continuing education	b. Other	6. Number available for employment	7a. In training related jobs	b. In non-training related jobs	c. Unemployed	8. % employed in training related jobs	9. Average monthly salary
Accounting	11	4	0	1	0	14	13	0	1	93%	$ 855
Auto Mechanics	21	24	0	13	0	32	27	2	3	84%	$1,010
Bio-Med. Electronics	13	0	0	0	0	13	9	0	4	69%	$1,400
Commercial Art	26	2	1	5	0	22	21	0	1	95%	$ 940
Cosmetology	36	5	0	0	2	39	38	0	1	97%	$ 605
D P Operations	28	0	5	1	3	19	17	1	1	89%	$ 890
D P Programming	63	14	1	6	3	67	58	0	9	87%	$1,225
Diesel Mechanics	19	2	1	1	1	18	17	0	1	94%	$1,105
Drafting	28	5	2	6	1	24	20	1	3	83%	$1,070
Early Childhood	26	3	0	3	2	24	24	0	0	100%	$ 760
Electrical Tech.	10	4	0	0	0	14	10	1	3	71%	$1,500
Electronic Tech.	36	6	4	8	0	30	30	0	0	100%	$1,210
Electro-Mech. Tech.	3	0	0	1	0	2	2	0	0	100%	$1,085
Emergency Med. Tech.	26	5	0	1	1	29	29	0	0	100%	$1,125
Heating, Refrig. & A/C	24	12	0	2	1	33	33	0	0	100%	$ 865
Ind. & Res. Electricity	10	1	3	1	0	7	7	0	0	100%	$ 785
Machine Tool	9	11	0	0	0	20	20	0	0	100%	$1,190
Mechanical Tech.	3	2	0	0	0	5	4	0	1	80%	$1,225
Medical Lab. Tech.	4	2	0	0	0	6	6	0	0	100%	$ 940
Medical Office Asst.	25	1	0	1	2	23	22	0	1	96%	$ 810
Offset Printing	13	11	0	1	2	21	21	0	0	100%	$1,047
Ophthalmic Tech.	8	3	0	0	1	10	9	1	0	90%	$ 970
Phlebotomy	8	3	0	3	0	8	8	0	0	100%	$ 815
Practical Nursing	40	2	0	3	4	35	34	1	0	97%	$ 940
Radio/TV Servicing	8	0	0	1	0	7	6	0	1	86%	$ 815
Secretarial & Clerical	13	3	0	2	1	13	11	0	2	85%	$ 825
Secretarial-Executive	2	3	0	1	0	4	4	0	0	100%	$ 935
Secretarial-Med. Trans.	1	0	0	0	1	0	0	0	0	--	--
Secretarial-Legal	0	0	0	0	0	0	0	0	0	--	--
Secretarial-Word Proc.	10	2	0	0	0	12	12	0	0	100%	$1,025
Surgical Technology	11	2	0	0	1	12	11	0	1	92%	$ 895
Welding	6	5	1	0	0	10	10	0	0	100%	$1,170
Totals	541	137	18	61	26	573	535	7	33	98%	$1,030

DEKALB IMPACT HIGH TECHNOLOGY SURVEY

Please place a checkmark (✓) in the spaces below that are appropriate for you.

1. Check the DeKalb Tech high technology area that interests you.

_____ Bio-Medical Electronics Technology
_____ Data Processing Technology (Programming)
_____ Electronic Engineering Technology
_____ Electro-Mechanical Technology
_____ Mechanical Engineering Technology
_____ None

2. Check the courses in high technology that you would enroll in.

_____ Introduction to Computer Science
_____ Basic Electricity
_____ Basic Electrical Drafting
_____ AC Fundamentals
_____ Electronic Devices
_____ Digital Principles
_____ Electronic Test Instruments
_____ COBOL Programming
_____ Industrial Electronics
_____ Communications Circuits
_____ Manufacturing Processes
_____ Machine Shop
_____ Computer Fundamentals
_____ Fundamentals of Engineering Technology

3. How many days per week would you prefer to attend high technology courses?

_____ 2 days _____ 3 days _____ 4 days _____ 5 days

4. Check the hours that you prefer to attend high technology courses.

_____ 3-5pm _____ 3-6pm _____ 4-6pm _____ 6-8pm

5. Would you attend high technology courses scheduled on Saturday?

_____ Yes _____ No

6. Would you attend high technology courses offered during summer months?

_____ Yes _____ No

7. Would you pay a required fee for high technology courses?

_____ Yes _____ No

8. Which campus is most convenient for you to attend high technology courses?

_____ North Campus _____ South Campus ____ Central Campus

(over)

GENERAL INFORMATION

Please provide the information requested below.

1. _____
(Name of Student)

2. _____
(Home School)

3. Sex:
(____) male
(____) female

4. Age:
(____) 12
(____) 13
(____) 14
(____) 15
(____) 16
(____) 17
(____) 18

5. Grade level:
(____) 8th
(____) 9th
(____) 10th
(____) 11th
(____) 12th

6. Racial or ethnic group:
(____) white
(____) black
(____) other

ERIC Clearinghouse for Junior Colleges
8118 Math-Sciences Building
University of California
Los Angeles, California 90024
SEP 23 1983